M. Sc. (Sem. II) Examination
April / May - 2003
S/SC-2497 : Electronics : Paper - V
(Communication Electronics)

Time : 3 Hours] [Total Marks : 100

Notes (1) Question No.(1) and (5) are compulsory.
(2) Attempt any two remaining questions from each section
(3) Use separate answer books for each section.

SECTION A

Q(1) Derive the Radar equation. (10)

Q(2) Derive an expression $Z_0 = (R + j\omega L / G + j\omega C)^{1/2}$ a transmission line characteristic impedance. Also, discuss lossless and distortion less line. (20)

Q(3) Write a brief note on waveguide resonators. (20)

Q(4) Derive the mathematical expression for Amplitude Modulated envelope. Show the side band generation using frequency spectrum. How the power is distributed in AM envelope ? (20)

SECTION B

Q(5) Write a short note on “Advantages and disadvantages of SSB transmission “ (10)

Q(6) Explain the angle modulation technique. Derive the mathematical expression for FM envelope. (20)

Q(7) Using frequency analysis of Angle Modulated wave, show that the infinite number of sidebands are generated. Define the significant sidebands. (20)

Q(8) With the help of circuit diagram explain the designing and working of any one FM modulator circuit. (20)